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INVESTIGATION OF ONE ASPECT OF INITIATIVE  
THAT IS SUBSUMED UNDER SELF-CONCEPT AND  
ITS RELATIONSHIP TO PERFORMANCE

by

John Edmund Genasci

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

Doctor of Education

in

Psychology

UTAH STATE UNIVERSITY  
Logan, Utah

1971

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John E. Genasci

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## ABSTRACT

# Investigation of One Aspect of Initiative That Is Subsumed Under Self-concept and Its Relationship to Performance

by

John Edmund Genasci, Doctor of Education

Utah State University, 1971

Major Professor and Thesis Director: Dr. Arden Frandsen  
Department: Psychology

Many children fail to achieve academic success despite an average or above average intellectual capacity, unimpaired motor ability, intact sensory functions, and an absence of major emotional disturbance. These same children have been assigned such descriptive terms as "underachievers" and "children with psycho-neurological disabilities."

It may be more apt to assume that these children who are under-achieving and obtaining poor grades do so from lack of feeling of personal initiative and personal control over events in their lives.

This study attempts to investigate initiative as clinically observed and its effect upon tasks requiring an active analytical approach to problem solving. One hypothesized objective was to determine if students matched for I.Q. and sex, who also reported that they assume more responsibility and had greater control and responsibility for their actions, did better on tasks requiring high motivation and elaboration of the structure imposed upon ambiguous stimulus. Also investigated was the degree to which the personality

variable of initiative affected a person's performance on figure ground tasks. Further, the study examined the relationship of the personality variable cited above to subscales on the WAIS, and performance on an achievement test.

Results were statistically supportive of the hypothesis that subjects feeling greater initiative and responsibility for their lives were able to impose structure and greater constructive elaborations to an ambiguous stimulus (Rorschach Cards), versus those subjects with less self initiative-responsibility. Also, the hypothesized relationship of initiative to performance on the Witkins Embedded Figures Test and academic achievement tests were in the hypothesized direction, but not significantly at the .05 level. Other hypotheses were not supported.

Further research is necessary to determine those common denominators that aid individuals to be productive, positive, and successful in solving life's tasks.

(68 pages)

## CHAPTER I

### INTRODUCTION

It has been hypothesized that somewhere between the external and internal world of man and his behavior is a dark tunnel in which symbolic structured learning travels back and forth. In this dark tunnel it is thought that there is a complex series of personality functions called ego processes. The ego processes are learned patterns of organized personal functioning that facilitate the organization of information from inner and outer environment. Ego processes regulate stored data and stored systems so that they may be utilized in the process of perception and thought.

The terms ego and ego processes are used herein in a general way and refer to those ego functions that are involved in the coping process. For example, with the Rorschach test the specific task assigned can be defined as that of responding, integrating, and interpreting a sample of outer reality. We assume that the manner in which the subject deals with the sample is determined by the interaction of outer reality impinging upon his ego, the economy of his inner needs, and the structure of his psychic organization. The blots themselves may be considered as representative of external reality and because of the highly unstructured nature of the stimulus, it provides maximum opportunity for projection of inner needs and fantasies. The present state of the personality is a result of psychic as well as learned cultural determinants and will determine the manner of selecting and experiencing particular parts of this reality as represented by the blots.

It is the interaction of this inner and outer stimulus that determines the response the individual gives to the card. Those responses then serve as the basis for inferences concerning the nature of the individual ego processes. According to Klopfer and Davidson (1962), high form level is a measure of how fully a subject utilizes both perception and past cognition to produce responses to multi-dimension stimuli or non-specific stimuli. In order to attain high Klopfer form level, a subject must make complex, elaborative responses. The subject must respond and try to interpret the stimulus further than a casual response and look for additional relationships and elaborations to his general response. The further interpretation and finding of a relationship should be strongly affected by initiative and motivation. In the present study the subsumed ego process of initiative-motivation will be investigated to determine its relationship to active, analytic, well-motivated approach to problem solving and interpretation of ambiguous stimuli.

Two recently developed tests that may help in understanding the role of initiative in ego processes of a person's execution of a task are the Rotter I-E Scale and the Edwards Personality Inventory. These tests, when combined with performance criteria, may help give insight into the role of motivation and personality style in performance, as well as further understanding of the relationship between what a person creates as cognitive goals and what he actually puts into action as observable achievement.

The Rotter I-E Scale was conceived from the theory that through previous reinforcement, generalized expectancies develop that predict individual behavior. Depending on these expectancies, the individual

develops feelings of self-responsibility or that he is controlled by forces outside himself. From the conceptual meaning of certain personality needs and cognitive styles, it would be assumed that these variables are related to task achievement. A person feeling more responsible for his behavior should exhibit behavior that would lead to gaining reinforcement for completion of the task.

The internal-external control dimension (I-E), as derived from social learning theory (Rotter, 1954) poses two characteristic "world views" or generalized expectancies concerning reinforcement. Based on past experience, one group of individuals acquires the view that the locus of causality for personality-relevant events, or reinforcements, is external. Others, however, view events as products of their own actions, capacities, traits, and/or the extent to which an individual believes that they control, through their own behavior, the reward and punishment they receive. Thus individuals are conceived to vary along a "locus of control" dimension, with end points labeled internal and external. This generalized expectancy internal-externalization causality has been most frequently measured by the I-E Scale (Rotter, 1966), which samples general attitudes regarding the causality of events.

Individuals who report feeling a greater amount of control over their environment will be motivated to order ambiguous stimulus to a greater extent, and show increased initiative by doing better on tasks influenced by initiative. Tasks being influenced by motivation are those tasks in which increases in performance can be achieved simply by increased desire to do the task in the shortest time possible and to continue looking for additional relationships in order to solve a task. In addition, those individuals who feel more in control of their

environment will demonstrate increased motivation and increased scores on selected performance subtests of the WAIS of block design, picture arrangement, and object assembly in comparison to the selected verbal subtests of information, vocabulary, and similarities and also an increased performance on digit symbol in relation to the information subtest of the WAIS.

WAIS performance subtests of block design, picture arrangement, and object assembly assess processes similar to those assessed by Embedded Figures tests and the Rorschach when scored for Klopfer form level only. These tasks are unique in requiring perceptual organization and selection of figure from the ground. To obtain a better score on the Witkins Embedded Figures Test, a person must keep looking, go beyond a casual response and utilize all of the cues. Goodenough and Karp (1961) suggested that increased individual performance on the WAIS subscales, block design, object assembly, and picture arrangement, involved an analytic approach and the best scores were obtained by persons who worked rapidly to complete the tasks. Increased motivation or desire to work rapidly and continue trying new and different methods to solve a problem may also increase scores on the timed subtests of the WAIS of block design, object assembly, and picture arrangement. But on the verbal section of the WAIS, if a person does not know an answer there is no way he can prove or find the answer strictly by his desire to solve the problem. All tests provide an opportunity for observing ego processes. How the individual is able to cope successfully with a task, as well as the manner in which he proceeds or how he views his behavior, are all a part of ego process. This study is an attempt to relate the subsumed area of ego process of initiative and motivation as clinically observed

by the Rotter Internalization-Externalization Scale and Edwards Personality Inventory in relation to a student's performance on tasks requiring active, analytical, and elaborative efforts. Further, it asks whether the amount of self-reported initiative and control one feels over one's environment is a significant factor in accounting for the quality of one's performance of life's tasks.

If the amount of control one feels over the environment has an effect on initiative and motivation and if we wish to turn out more fully developed, coping individuals, greater emphasis should be placed upon allowing students to set their own goals. The development of more productive individuals appears to be what Jerome Brunner (Hall, 1970) is referring to in stating that an enriched environment without internalization puts the child in the position of a passive consumer, and that in order for the child to benefit he must be on his own. He further states that the crucial problem in education is for the child to gain an opportunity to set goals for himself, to learn to mobilize means for reaching them and to withstand the frustrations, and to make detours.

Possibly a feeling of external control, a belief that a goal cannot be obtained discourages teachers and parents from structuring the child's environment in terms of problems to be solved. The external controls experienced by an older population is an example of stymied motivation. Newgarten (1970) comments on the varied role patterns assumed by people after retirement. The amount of control one feels one has over what is happening significantly affects whether one becomes disengaged and withdraws to a rocking chair upon retirement, or reorganizes life to substitute new activities for lost ones. It



would be useful to find new relationships between existing, established tests and new tests measuring learned personality variables.

### Statement of the problem

Many children fail to achieve academic success despite an adequate or above average intellectual capacity, unimpaired motor inability, intact sensory function, and an absence of major emotional disturbances. These children, with essentially unimpaired intellectual, motor, and sensory functions, have been assigned such descriptive labels as "underachievers" and "children with psycho-neurological learning disabilities." More specifically, these are children who have a poor academic performance and an absence of any discernible defects in the structural apparatus required for the learning process to occur.

It seems probable that many underachievers obtain poor grades because they lack initiative and personal motivation. Therefore, this study attempts to investigate internal control of behavior and its effect upon achievement. While there is much evidence available to support the position that school achievement is related to social class in a general sense, essentially in the large urban centers with minority groups, the social factor is not necessarily the major variable accounting for levels of performance (Goldstein, 1967). Thus, there are many children of low income families who are successful in school just as there are many children of high income parents whose academic performance is not satisfactory. Since underachievement apparently cuts across social class lines, other aspects of the problem need to be investigated.

It may be assumed that initiative and the belief in internal control of behavior are important determiners of academic achievement. The present study attempts to clinically identify the personality variable of initiative and the amount of control one feels over the environment which theoretically relates motivation to achievement and the attainment of success. One aspect of the personality dimension under consideration is a generalized expectancy of belief in either internal self-directed control or an external feeling of control based on fate, chance, and luck. This personality dimension is based on the continuum of internal or external control for reinforcement. Rotter's concept of internal control is the degree to which an individual expects that rewards or reinforcement will be contingent on his own behavior or that reinforcement will follow upon forces which are independent of the person's own actions.

Rotter (1966) demonstrated that consistent individual differences exist in this variable of internal control, and that the generalized expectancy for internal or external control of reinforcement bears some relationship to other personality dimensions such as motivation and achievement situations.

The present study hopefully will lend theoretical knowledge to personality variables of motivation and initiative. Further, this study may arrive at interesting relationships between student initiative as measured by the Rotter I-E Scale and Edwards Personality Inventory in relation to responses on psychological tests, both projective and intelligence. More specifically, this study will ask: Do students who feel greater self-responsibility for their behavior respond more positively and effectively to school tasks?

Further, the present study will investigate a student's initiative and motivation as clinically observed by the Rotter Internalization-Externalization Scale and the Edward's Personality Inventory in relation to a student's performance on tasks requiring active, analytic, well motivated approaches to problem solving. This study attempts to demonstrate that students who on the Rotter Internalization-Externalization Scale and Edwards Personality Inventory report that they take more initiative and responsibility for the behavior will, in comparison to those scoring at the lower quartile, also show increased initiative and motivation by giving more constructive elaborations on the Rorschach Ink Blot tests - and thus receive higher Klopfer form level ratings to their responses. This study will also attempt to demonstrate that internalization of control over the environment will cause subjects to solve Witkins Embedded Figures Test in a shorter period of time, and also to score significantly higher on block design, picture arrangement, and object assembly subtests of the WAIS in comparison to scores on information, similarities, and vocabulary. Further this study will attempt to demonstrate that those students who report feeling greater initiative and increased control over their environment will receive a higher score on digit symbol as compared to information on the WAIS than those scoring in the direction of feeling less control of the environment.

Finally, this study will investigate the relationship between initiative and feelings of control over the environment and academic achievement as measured by the student's performance to an academic achievement test. Feeling more in control, he will be expected to perform those tasks required to gain increased knowledge in academic

classes. This is an area in which reinforcement of increased knowledge is contingent upon the student's interest in learning more about the subject.

## CHAPTER II

### REVIEW OF LITERATURE

Investigators who have been concerned with accounting for individual difference in learning and in modes of responding have often sought relationship between manifest personality and perception. The literature discussed below is research involving personality variables and individual differences in modes of performance on the environment.

In general, studies have found that even when subjects have been grouped homogeneously with respect to age and intelligence, marked differences in performance were observed. Witkins et al. (1954) speaks of the many studies dealing with cognitive styles and suggests that people perceive and view perceptual tasks with characteristic styles and modes. Witkins et al. (1962) found a sex difference in response to field embedded tasks with males solving field embedded tasks faster than females. Vaught (1965) as well as Witkins et al. (1954) noted a within-sex variation of performance on field embedded tasks.

The thesis presented here proposed the assessment of cognitive style variables and assumes that they have an important role in anticipating a person's initiative and motivation. Cognitive styles should then be reflected in one's perception and discrimination along alternative courses of action. It also assumes a relationship between the capacity to perceive particular cues and accountability for one's behavior. Further, this implies that subjects have the ability to anticipate the consequences of their actions.

Kelley and Rasey (1952) in talking about individual modes of perceiving become more specific. They suggest that the most revealing fact about perception is that it is selective. There are many coincidences of situations in which persons find themselves at any given point in time. To perceive all situational stimuli would cause pandemonium. Therefore, the person chooses that which is congruent with the self. This interrelation and dependency upon self for choice is somewhat similar to Rotter's (1966) hypothesis that we respond to cues based upon our past learned expectancy for reinforcement of such action.

The selectiveness of environmental stimuli is extended to all species by White. White (1959) in discussing an alternative to drive reduction, noted how the work of many authors has converged on a belief that it is characteristic of all species to explore and attempt to master their environment. He labeled this concept competence. Though White is not specifically interested in individual differences, he has noted that such a motive or drive to master the environment is not explained by primary drive and not as strong as some primary drives, but is moderate in strength and persistence. Benedict (1934) noted that in the primitive culture of Australian Aborigines there are attempts to gain mastery of important events and experiences in their lives by using masks and dances. Angyal (1941), in his concept of motivation towards autonomy, discusses a person's attempt to gain actual mastery of the environment. Like many other traits, we could expect mastery of the environment to be normally distributed through our society.

The research on cognitive style uses various methods to observe and account for the differences. In attempting to find objective

measures of personality variables that differ in our society. Klein (1964) proposed that people perceive and view the Rorschach stimuli with characteristic personality styles and modes. Other studies using different variables, also have investigated personality needs and cognitive styles, relationships to adjustment, and/or achievement. Rotter (1966) did not find a relationship between two of the behavioral variables studied in the present paper, field dependency and his concept of independence. This would appear to be in contrast to Wertheim and Mednick (1958), who found field dependence to be related to the amount of independence that the mother gives the child during infancy. From Rotter's (1954) social learning theory, it would be anticipated that children receiving more independence would gain an expectancy for control over what happens to them. Crandall (1964) suggested that children who are high in their need for achievement, in all probability, have some belief in their own ability or skill to determine the outcome of their efforts. Crandall and Sinkeldam (1969) further stated that the Embedded Figures Test provides cues to children's motivation and should be considered in future research.

Initial investigation (Messich, Ross and Faterson, 1962) of individual difference in mode of orientation in tilting room, tilting chair, and the rod and frame test were conceptualized as involving primarily visual or primarily postural experiences. Subjects fell into a continuum defined at one end by reliance on the visual field and on the other end by extreme reliance on body orientation.

Further investigation provided evidence that "posture" versus "visual" interpretation was too limited. Subjects with contrasting modes of orientation were also found to differ significantly in

their performance of tasks which in no way involved posture or body position. For example, on the Embedded Figures Test, persons who used their bodies as a base of reference were better able to find the simple geometric figures hidden in the complex figures (Messich et al., 1962)

The psychological consistency beginning to emerge was one not requiring strictly spatial orientation, for tasks in the Embedded Figures Test were correlating highly with the rod and frame tests. What the perceptual tests of Witkins have in common (following Witkins' well-known formulation) is the necessity to keep an item, or conceptual figure, separate from a field of embedded context. The style of performance used in responding to the task appeared to affect the performance.

The next question was, "Is the distinction between global and analytical style of function on a perceptual test specific to perceptual situations, or does it extend to intellectual functions as well?" The observation that subjects tend to be self-consistent in both the ease and difficulty with which they escape the influence of a complex pattern pointed to the importance of personality factors in accounting for individual difference.

Witkins began studies to find relationships between his global and analytical functioning and a number of tests. Witkins found that relatively more field-independent persons tend to make higher total scores on conventional intelligence tests. Woerner and Levine (1962) refined this further for the Wechsler Intelligence Scale for Children and indicated the relationship is higher for the non-verbal section than for the verbal section.



These relationships were further explored by Goodenough and Karp (1961), who conducted a factor-analytical study with ten and twelve year olds. Three factors were identified from the field-independent perceptual tests and the twelve Wechsler Intelligence Scale for Children subtests. The first factor has major relevance for the dependent variables used in the present study. The first factor consisted of the three perceptual tests along with three of the WISC subtests of block design, object assembly, and picture arrangement. These tests appeared to have in common the need for the subject to overcome the embedded context in order to perform optimally. What had been called "field independence-dependence" then, in effect was the perceptual outcome of a more general cognitive style. The higher WISC I.Q. for field-independent children was their demonstration of superior performance in those subtests which required the ability to overcome an embedded context.

In a study concerned with order of testing rather than factors, Grisso (1967) advised caution in interpreting findings when testing is done using the WAIS followed by the administration of an unstructured test such as the Rorschach. He advised when giving the WAIS and Rorschach in a battery, that the Rorschach be given first. Grisso (1967) found that the structured nature of the WAIS tended to inhibit response on the Rorschach.

Building upon earlier work, Witkins et al. (1962), further hypothesized that children who are more analytically oriented would in structured situations be better able to impose structure on a field.

However, children with a global field approach, who passively accept the prevailing organization of a structured field, would tend

to leave as is stimulus material that is unorganized and thus would experience it as poorly structured. Experimental situations using the Rorschach would appear to focus on the ability to impose structure on an ambiguous task or item. In addition to reality testing, the degree to which the subject invests his interest and intellectual control over his response is also inferred from form level. Form level indicates the ability of the ego process to make appropriate perceptual judgement about the stimulus (Draguns, Haley, and Phillips, 1967).

The relationship of vocabulary subtest of WISC to digit symbol was investigated by Kennedy, Van Die Riet, and White (1963). They found that the ratio of Negro children passing both vocabulary and digit symbol decreased with age because of a decrease in passing of digit symbol subtest. They attributed this to cultural loading; it would seem plausible to attribute the lower digit symbol score to failure to learn the expectancy for reinforcement from added effort on the digit symbol subtest.

Klopfer and Klopfer (1954) state that the form level of the individual is significant in indicating types of behavior expected which may be reflected in the routine intellectual behavior of the subject. The average total form level is similar to what can be expected in actual behavior.

The Rorschach, then, can be used to assess a child's perceptive experience; the child's perceptive function being observable in his response to the blot. Subjects vary in their effort to elaborate or specify the concepts, and in their effort to organize the various parts of the blot into a meaningful larger concept. Hence, the differences in efforts are significant. Interpretively, the responses

can be scored by assigning a rating called the form level rating which indicates the degree of motivation and elaboration of the ambiguous stimuli.

Thus, individual consistency in functioning extends from body orientation tests to tests which require the overcoming of an embedded context to parts of conventional intelligence tests which require an analytical approach to insight problems which require restructuring of unstructured situations like the Rorschach.

Certain cognitive styles would be expected to be related to academic achievement. Rotter (1966) suggested that a generalized expectancy for internal control of reinforcement, or a belief that the outcome of one's efforts are largely determined by one's own ability and skill rather than some external factor, is conceptually related to academic motivation. The relationship can be inferred from the hypothesized relationship of expectancy for internal control of reinforcement and achievement motivation. However, Poe (1968), in a study of internal control and academic achievement, found internal control to not be significantly related to academic achievement. In his study there was no control for intellectual ability. Since intellectual ability may account for the larger factor in academic achievement, this study must be viewed with skepticism. Cognitive style of social responsibility would appear to be an important consideration in academic achievement.

Penty (1956), in discussing studies of school dropouts and academic underachievers, indicated that students dropping from school prior to graduation and/or failing to achieve, do so for reasons other than lack of ability. Modes and strategies of thinking can affect the

adaptation to the school setting and performance within the school. The adaptation may be found to extend down to the individual performance in academic areas. For instance, Cohn (1968) suggests that we may yet learn that reading difficulty, in addition to being a cause of other problems, is itself the result of a kind of cognitive style. These styles make for less effective functioning in dealing with the total environment, of which the school is only a part.

In the Cohn (1968) study, it was found that field independence was positively and significantly correlated with those aspects of comprehension that require reorganization of a field to solve a problem, when the solution had to be found through new cognitive activity rather than with past experience and from an external authority base. The study suggests a relationship between field dependence, academic achievement, and internal-external authority. Farr (1969) found that field independent subjects score higher on non-verbal tasks such as arithmetic problems.

The 29-item Rotter I-E Scale has been used by itself to measure the personality variables of internalization-externalization. However, Dash (1968), in recommendations for further studies, suggested future research with the Rotter I-E should give consideration to finding additional measures of attitudes to support and complement the contributions of the I-E Scale. Logically, broad measures would be expected to correlate with achievement; so it requires more than measuring just responsibility for action to determine the relationship of this personality variable to elaboration of form level. This was further reason for combining selected Rotter Internalization-Externalization Scales and Edwards Personality Inventory to broaden the personality variable considered.

In studies using the I-E Scale by itself emphasis has been placed upon studying differences in behavior of people receiving scores high and low on the Rotter I-E. Strickland (1965) reported that people involved in civil rights action groups scored significantly higher on the Rotter I-E Scale for internalization. These people were physically involved in marches, obtaining signatures, and actively participating as members of the student civil rights groups versus non-participating types of members who scored lower on internalization. Passivity and irresponsibility are often products of restricted fields of alternatives where little chance for personal control is perceived (Gore and Rotter, 1963).

Seeman (1963), working with a prison group, found that in attempting to teach appropriate ways to behave in order to obtain parole from prison, prisoners differed significantly. Those prisoners feeling less alienated from society retained and used a greater amount of information given in prison classes than those prisoners who did not feel able to personally affect their parole. Also, Lefcourt, Lewis and Silverman (1968), in studies of tuberculosis patients and delinquents, found that those subjects who were higher on external control were characterized as being highly alienated and as being less objective about their conditions or about parole information than internally controlled individuals.

A study by James, Woodruff, and Werner (1965) stated that smokers who were able to discontinue smoking demonstrated greater internal control on personality measures versus those smokers unable to quit smoking.

The studies reviewed suggest that generally those subjects who feel in control of the environment performed better on the various

tasks presented, particularly when reinforcement for response was contingent upon their behavior. Research in this particular area of individual responsibility and activities is challenging. As Brunner (Hall, 1970) stated, research now is important to encourage people to feel that they not only may be able to, but can help, solve their own problems.

## CHAPTER III

### METHODOLOGY

#### Objectives and Hypothesis

The general objective of this study was to determine whether students who reported that they assumed more responsibility and control of their actions did better than less self-responsible students, with whom they were matched for sex and I.Q., on tasks requiring high motivation and elaboration of the structures imposed upon ambiguous stimuli. It investigated the degree to which the personality variables of initiative and internal-external control or feeling of responsibility affected a person's performance on figure ground tasks. Further, it determined the relationship of the personality variables cited above to performance on subscales of the WAIS, as well as actual achievement as measured by performance on an achievement test. In view of the objectives of this study and a review of the pertinent literature, the following hypotheses were proposed:

1. Subjects receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and Edwards Personality Inventory will, when compared with those scoring lower on the Rotter I-E and Edwards Personality Inventory, earn higher Klopfer form level scores on the Rorschach Cards 2,3,8,9. This hypothesis suggests a relationship between initiative or self-responsibility, as measured by responses to self-inventories, and the

structure and constructive elaboration individuals impose on the ambiguous stimuli presented them.

2. Subjects receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and Edwards Personality Inventory will, when compared with those scoring lower on the Rotter I-E and Edwards Personality Inventory, be less field dependent on the Witkins Embedded Figures Test. Being able to focus out the extraneous stimulus and being less dependent upon the perceptual field when responding to the figures, they will receive a lower score.
3. Subjects receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and Edwards Personality Inventory will, when compared with those scoring lower on the Rotter I-E and Edwards Personality Inventory, receive higher mean scale scores on the WAIS on block design, picture arrangement, and object assembly, than they do on verbal subtests of information, similarities, and vocabulary.
4. Subjects receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and Edwards Personality Inventory will, when compared with those scoring lower, receive higher scaled scores on the WAIS subscales of digit symbol than on the subscale of information. A higher ratio of performance on digit symbol test would suggest increased motivation since scores obtained on information cannot be increased solely by level of



motivation. However, the scores earned on the WAIS scale of digit symbol can be increased simply by desire to do well in the shortest length of time. This hypothesis tests the idea that persons scoring higher on digit symbol in relation to information view this task's performance as influenced by skill and within their control. These students display their initiative and motivation by working to do their very best on digit symbol, a task that can be influenced by motivation of a subject.

5. Subjects receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and Edwards Personality Inventory will gain higher percentile scores on the Iowa Tests of Educational Development. This increased performance suggests that the amount of initiative and feeling of control over the environment is a significant factor in the student's seeking out information to increase his knowledge of the subject.

In using the data to test these hypotheses, the corresponding null hypotheses will be adopted.

### Subjects

The subjects used in this study were 80 girls and 60 boys from the senior class (12th grade) El Dorado High School, winter quarter, 1970-71. Initially, all of the senior class members, numbering 178, were subjects in this study. However, parental permission for psychological testing was not received for all students. Permission to administer individual psychological tests to these high school students was first granted by

the County School Board, Superintendent of El Dorado Schools, El Dorado High School Principal, Guidance Counselor, and teachers in the classroom. Also, an individual letter was sent to the subjects' home asking for written parental permission to participate in this study and to receive individual psychological testing (see Appendix A for letter).

Students not returning permission letters and/or not bringing letters back prior to the time of group testing were not included in this study. The high school administration allotted time for testing the subjects, both group and individual testing, during the regular school schedule.

The group testing was done with the cooperation of the History and Social Studies Departments of El Dorado High School. Subjects were informed at the time of the initial group testing that this was a graduate study in which they were participating and that some of them would be selected for further individual testing.

### Procedures

Phase 1: All subjects who could legitimately be used in this study were administered as a group selected scales from the Rotter Internalization-Externalization Scale and the Edwards Personality Inventory (Booklet III, Scales 1,4,6,10,14). The scales measure motivation to succeed, plans work efficiently, assumes responsibility, is a hard worker, and competitive, respectively. Scores received on the Edwards Personality Inventory were combined with the Internalization score on the Rotter Scale. The Rotter I-E Scale is scored for internalization and higher scores therefore indicate students functioning more internally. Scores received by the subjects, in each sex group,

were then divided into two major experimental groups, upper and lower respectively.

Upper initiative group: Those subjects receiving scores above 97 for boys and 98 for girls on the combined Rotter and Edwards tests were defined as students who are well motivated, competitive, self directed, and feeling in control of self. This group represented subjects who scored in the upper 23 percent of girls and upper 30 percent of boys given the independent variable of combined Rotter I-E and Edwards Personality Inventory.

Lower initiative group: Those subjects receiving scores below 71 for boys and 72 for girls on the Rotter and Edwards tests were defined as students lacking in motivation, being non-competitive, relying on others or situations to make decisions, and not feeling confident in decision making. This group represented subjects who scored in the lower 23 percent of girls and lower 30 percent of boys given the independent variable of combined Rotter I-E and Edwards Personality Inventory.

Phase II: Intelligence (I.Q.) was controlled in each sex group by matching upper and lower group students on scores they received on the Lorge-Thorndike group intelligence test.

These experimental pairs from upper and lower initiative groups were then administered a battery of individual psychological tests. These tests included selected cards from the Rorschach (2,3,8,9), Witkins Embedded Figures Test, and the selected scales from the Wechsler Adult Intelligence Scale.

Since students received pass-fail marks in some classes and grades in other classes, a grade point average could not be used as a

measure of performance. In the place of a grade point average, a student's overall percentile score on the Iowa Test of Educational Development was used. Intelligence quotients (I.Q.) for the subjects were available from the County Schools Office of Admissions and Records. All students had been administered the Lorge-Thorndike Intelligence Test as standard procedure during their 12th grade. The I.Q. scores were used in grouping and matching these subjects.

#### Preliminary information on the tests

Prior to selection of the subject and formal data collection, as discussed in this paper, some sixty junior students from Loyalton Senior High School, Loyalton, California, were administered the selected subtests of the Rotter Internalization-Externalization Scale and the Edwards Personality Inventory. Intercorrelations were computed and analyzed in regard to commonality of measurement between the Rotter and the subscales of the Edwards Personality Inventory. The data are presented in Table 1. A pilot study was also conducted on a high school group in Logan, Utah.

Correlation and first factor loading of Rotter I-E and 5 scales from Edwards Personality Inventory were administered to a Loyalton High School junior class (N=62). These scales were administered to a pre-study group to determine the possibility of combining I-E and EPI. The scales have sufficient correlation and loading on a common factor to justify combining them.

This information was made available through the cooperation of the Principal of Loyalton Senior High School as well as teachers and students.

Table 1. First factor loading from Rotter I-E and 5 scales from  
Edwards Personality Inventory on student initiative

		1	2	3	4	5	6
Motivation	1	1.00	.64	.41	.54	.60	.25
Plans work	2	.64	1.00	.28	.52	.80	.32
Competitive	3	.41	.28	1.00	.37	.29	.20
Assumes Resp.	4	.54	.52	.37	1.00	.52	.09
Hard worker	5	.60	.80	.29	.52	1.00	.29
Rotter I	6	.25	.32	.20	.09	.29	1.00
Column sum		3.44	3.56	2.55	3.04	3.50	2.15

All columns sum = 18.24

Square root of total = 4.27

Column sum divided  
by square root  
of total score  
yields

First  
factor  
loading,  
student  
initiative

.90 .83 .59 .71 .81 .50

This part of the study was conducted to determine whether the theoretical relationship between feelings of control over environment as measured by Rotter I-E would indeed show a relationship to scales of motivation to succeed, responsibility, etc., in the Edwards Personality Inventory. In order to combine the five scales from the EPI and the Rotter I-E, they must have sufficient inner correlation and loading on a common factor to justify combining them (Nunnally, 1967). As Table 1 shows, the first centroid factor, "student initiative," has fairly high to high factorial loadings on all of the inventories.

#### Assessment and instruments

The five instruments used in this study were: (1) Rotter Internalization-Externalization Scale, (2) Edwards Personality Inventory, (3) Witkins Embedded Figures Test (short form), (4) Rorschach (cards 2,3,8,9) scored for Klopfer's form level, and (5) selected scales from the Wechsler Adult Intelligence Scale. A description of each instrument follows.

Description of Rotter I-E Scale. The Rotter I-E Scale has been called a measure of general expectancy. It has been designed to measure an individual's preference for internal or external control of reinforcement. Basically, it deals with the subject's attitudes and beliefs about the nature of the world. Data on the present scale was compiled by Rotter in 1966. It can be summarized as follows:

Internal consistency estimates are quite stable, ranging from .65 to .79. Test retest reliabilities over a period of from one to two months range from .49 to .83. Correlations with the Marlow-Crown social desirability scale

range from  $-.2$  to  $-.41$ . Correlations with measure of intelligence, principally the Ohio State Psychological Examination, range from  $.03$  to  $-.22$ .

Several factor analyses have been completed on the Rotter I-E Scale. The failure of efforts to develop subscales led to a reduction in the number of items. Franklin (1963) performed a factor analysis in his study of one thousand high school students. His results conformed to others which found that all the items loaded on a general factor which accounted for 53 percent of the total scale variance. The meaning of the scales score is a question of both theoretical and practical significance.

It has been stated that extreme external scores could be an indication of poor adjustment to the responsibilities and demands of life. This model describes an individual who relies on fate and chance to the exclusion of goal setting and planning for his life style of problem solving. The condition of externality could also be thought of as a means of defending oneself against the harshness of reality. The degree to which a person would place additional demands of achievement upon himself may be related to the amount of defenses against stress. The more internalizing the person is, the more he tends to take responsibility for his own behavior and the greater effort he exerts towards placing structure upon an ambiguous stimulus, and also, the more he works to order his own life.

Description of the Edwards Personality Inventory. The Edwards Personality Inventory (EPI) was used to measure the independent variables of social responsibility and motivation. The EPI was developed by A. Edwards to measure a large number of varying

personality characteristics of normal individuals. It consists of five booklets, each of which contains 300 items. In the present study, five scales from Booklet III (scales 1,4,6,10,14) were used in conjunction with the Rotter I-E to measure social responsibility, motivation, and internal control.

The names of these five scales--motivation to succeed, plans work effectively, assumes responsibility, is a hard worker, and competitive--imply the summary of the content of the items in each scale. The EPI differs from other personality inventories in a number of ways. For instance, almost all of the items that might be regarded as offensive by examinees have been eliminated. The EPI contains no items that inquire into a family's religion, political beliefs, or relations amongst the family members. There are no items that ask about health or bodily functions. Furthermore, almost all items that have extreme socially undesirable scale values have been eliminated because of the evidence that students regard being asked to respond "true or false" to such items as an invasion of privacy.

The original item pool of 2824 items was rated for social desirability. The final test excluded those items with an extreme high or low rate of response to social desirability and items with low relationship to total score. The five scales chosen from Booklet III for the present study have a high loading on factor, one which may be termed self-initiative, and possess a modest correlation with the social desirability scale. Thus, on the EPI, the examiner found that many items measure similar content and were found to not be highly objectional to people in Edwards' validity studies (1967).



The five scales used from Booklet III have commonality of relationship with the Rotter I-E.

Directions for Edwards Personality Inventory: This inventory contains a number of statements that other people may or may not use in describing you. Assume, for example, that those people who know you best were asked to mark each statement true or false to indicate whether they believe the statement does or does not accurately describe you. Your task, in other words, is to predict how people who know you well would mark each statement if they were asked to describe you in considering the following statements.

A person scoring high on the EPI scales is described as follows:

Scale No. 1 - Motivation to succeed. He is strongly motivated to succeed, can set up long range plans and work towards them without being diverted. Knows what he wants to accomplish in life. Strongly motivated to achieve his goal. Has given considerable thought to his future. Believes in business before pleasure. Has drive and ambition. Has clearly defined goals.

No. 2 - Plans work efficiently. He usually has an assignment completed before it is due. Is able to work on several tasks at once. Is efficient in planning the details of his work. Has no difficulty keeping his mind on his work. Plans his work ahead of time. Wastes little time in getting down to work. Makes the best possible use of his time.

No. 3 - Assumes responsibility. Likes to take charge of organizing group activities. He has no difficulty getting others to accept his leadership. Enjoys being put in charge of things. Is not afraid of responsibility.

No. 4 - Is a hard worker. He is a hard and steady worker. Works hard without supervision. Takes work seriously. Spends most of his spare time on work. Is not easily discouraged by work given. Gives all of his energy to anything he undertakes. Becomes bored when he has no work to do. Is not a lazy person. Is not content to work less than the average person.

No. 5 - Competitive. He tries to do his best to win in any game. Wants to impress others by showing how well he can do something. Works hardest when competing with others. Likes to build or do things better than others. Is stimulated by failure to try harder. Enjoys taking examinations. Has a strong need to win. Gets pleasure out of winning an argument.

Witkins Embedded Figures Test. One of the tests used to measure the dependent variable of field independence is the Witkins Embedded Figures Test developed by Witkins et al. (1954).

Witkins developed the Embedded Figures Test from an intensive study of perception and personality relationships. The Embedded Figures Test proved to correlate significantly with measures of orientation to the upright, as well as a host of personality variables. Of the perceptual variables used in Witkins' studies (Witkins, 1950), the Embedded Figures Test is the only one which does not require expensive apparatus, and hence will probably be the one most frequently used by other researchers.

Since the score is based upon the time required to extract simple figures from each of twenty-four complex patterns, some subjects require an excessively and unpredictably long time to complete the test--sometimes more than an hour and a half. Therefore, Jackson (1955)

comprised a short form by reducing the items from twenty-four to twelve. The short form correlated .99 with the whole scale (Witkins, 1969). Although reducing the number of items from twenty-four to twelve effected more than a forty percent reduction in administration time, the possibility of a further reduction remained. Since eliminating additional items could reduce the reliability, a reduction in the time limit for each item from five to three was considered. Menningers Foundation established a correlation between the short form, with the three-minute time limit, and the original scale of .96 for women. The three-minute time limit also has some advantage in that the distribution of items has been a less extended tail and is not asymmetric as its distribution of each item with the five-minute time limit. Because the twelve-item short form with a three-minute time limit gives a good approximation of results obtained from the entire Embedded Figures Test while requiring only half as much administration time, it was used in the present study.

At the beginning of the test the subject was given the following instructions:

"I'm going to show you a series of color designs. Each time I show you one of these designs, I want you to describe the over-all pattern that you see in it. After you examine this design, I will show you a simple design which is contained in that larger design. You will be given the larger design again. Your job will be to locate the smaller figure in it. Let us go through one to show you how it is done."

The subject was shown the practice complex figure P-1 for fifteen seconds. Then it was removed and the practice simple figure P was

shown for ten seconds. When it had been removed, the complex figure was presented once more with the instructions to locate the simple figure in it. The subject was timed in this task and the score recorded for him was the time he took to locate the simple figure. When he reported he had found the figure, he was required to trace it to make sure it was the correct one. After the practice trial, the subject was given the following additional instruction.

"This is how we will proceed on all trials. I would like you to note that in every case a smaller figure will be present in the larger design. It will always be in the upright position. There may be several of the smaller figures in the large design but you are to look only for one in the upright position. Work as quickly as you possibly can since I will be timing you, but be sure that the figure you find is exactly the same as the original figure, both in size and proportion. As soon as you have found the figure, tell me at once. If you forget what the small figure looks like, you may ask to see it again. Are there any questions?"

The same presentation was used on the twelve trials. A maximum time of three minutes was allowed and if the subject failed to locate the figure in that time the score was recorded as a three minute failure. While he was searching for the simple figure he was permitted to reexamine the copy if he wished. The complex figure was, of course, removed so that both figures were never seen simultaneously. The student was discouraged from taking more than ten seconds for each reexamination. A stop watch was stopped during every period of reexamination so that this time was not included in the final score. When the student reported the discovery of the simple figure within

the complex one, the time was noted but the stop watch was permitted to go when he traced it. If this tracing is done correctly, the score recorded for the trial is the time of discovery; but if the correct figure is not traced, he continues to search and time consumed in tracing the incorrect figure is included in the final score. The time at which each unsuccessful attempt was made was recorded. The student's score for the whole test is the sum of times taken to locate the simple figure in all the complex figures.

Wechsler Adult Intelligence Scale. The WAIS subscales were compared to assess a student's motivation and his mode of approach to problem solving. The WAIS digit symbol scaled score was compared with the scaled score on information.

To a great extent successful performance on digit symbol involves the degree of motivation of the person being tested, whereas information involves only recall of past learned material. Examination of several of the WAIS subscales (picture arrangement, block design, and object assembly) by Goodenough and Karp (1961), suggests that successful performance on these tests involves an analytical mode of approach and relates positively to the Embedded Figures Test. These WAIS subscales (picture arrangement, block design, and object assembly) to an extent also measure the extent to which the subject has worked with his environment. The subject needs to take his experiences and put them to work quickly to obtain a good score on these performance tests. The WAIS subtest scaled scores (picture arrangement, block design, and object assembly) were averaged together and compared with the subject's score on three subscales with a strong verbal factor (information, similarities, and vocabulary).

In the picture arrangement, block design, and object assembly subscales, it is suggested that the subject must have an analytical approach and be motivated to work rapidly for best scores; whereas, in the vocabulary similarity and information subtests the subject need only recall past learned data.

Rorschach form level. In the present study, the Klopfer Rorschach form level (Klopfer, 1962) was used in scoring the Rorschach cards as a measure of the degree to which a subject imposes structure to an ambiguous stimulus. The Rorschach assesses the student's perceptual experience with respect to vagueness, clarity dimension, and adequacy or accuracy of the resultant percepts themselves. It also assesses the extent to which students, in a structured situation, show an analytical approach. The more analytical students should, in unstructured situations, be better able to impose structure on a field. On the other hand, students, who passively accept the prevailing organization of a field, should tend to leave "as is" stimulus material that is unorganized, and thus would experience it as poorly structured.

Students who take more responsibility for their behavior should also interact more with their environment and try to organize a stimulus to a greater extent than those who take less responsibility for their behavior.

Most subjects respond to the ink blots by trying to fit the outline or form of a blot to a concept they see. Some subjects would do this better than others and a few would even disregard the fit. People also vary in their capacity to elaborate or specify their concept, and in their ability to organize the various parts of a blot into a meaningful larger concept. Persons vary in elaboration of

achromatic spaces, organization, movement, and relationship of variables. Since the differences in ability are significantly interpretive, they are scored by assigning a rating, called the form level rating. The form level rating is applied to responses regardless of their location, their determinants, their content, or their originality (P-0) scores. Form level is scored on three considerations: accuracy, specification, and organization. Each response is rated on a scale with a low of -2.0 and a high of 5.0. The process involves: (1) assigning a basal rating, determined primarily by the accuracy of the fit. (There are seven basal ratings - 1.5, 1.0, 0.5, 0.0, -1.00, -1.5, and -2.0, respectively.) (2) Adding to the basal rating in units of 0.5 for good elaborations for specifications and for good organization, or subtracting from the basal rating in units of 0.5 for poor or inaccurate specifications and for organization that weakens the concept.

On assigning basal score:

- 1.5 - is assigned for specific responses of an animal or human figure. Example: Card 2, Japanese dancer.
- 1.0 - is definite in shape to fit the blot.  
Example: Card 2, a butterfly, crab.
- .5 - is a vague concept. Example: Card 2, "I think it is a woman's sex organs."
- 0.0 - is a color response. Example: Card 8, red and black dots.
- 1.0 - is a poor response that subject tries to reconcile, but doesn't.

-1.5 - is a concept that just fits one part of the blot but is given to the whole blot.

Example: Card 9, subject responds to the feelers and says of the whole blot, "It is an ant."

-2.0 - is a concept that doesn't fit blot, not attempt is made to reconcile original response.

Basal ratings are assigned according to the criteria listed in Klopfer's "Rorschach Techniques - An Introductory Manual" (Klopfer, 1962).

In the form level rating, accuracy applies to the fit or match of concept to the blot area in terms of outline, shape, or form.

There are three levels of accuracy:

1. Accurate responses provide concepts that fit the area,
2. Semi-definite or indefinite responses refer to objects that are vague or variable in shape, for instance, "clouds" to Card 11, and
3. Inaccurate responses are those in which the concept is definite in form but refers to a blot area of dissimilar form, for instance, "house" to the whole of Card 7.

The second consideration is specification which applies to the way a person describes the concept seen. If the elaborations fit the structure of the blot areas, they improve the concept; if they do not, they spoil the concept. There are three levels of specifications:

1. Constructive specifications are elaborations of the concept that match the particular structure of the blot area. For example, adding whiskers on a cat, or specifying detailed



facial features, or specifying accurately certain qualities of the movement, shading, and color aspects of the blot.

2. Irrelevant specifications are those verbalizations by the subject which neither add nor detract from the accuracy of the the match of concept to blot. For instance, seeing men bowing in Card 3 and saying, "Their backs are bent over," does not improve the concept.
3. Destructive specifications are those verbalizations that weaken or destroy the form level of the concept. For instance, seeing legs in both the lower and side extensions of the bat on Card 5.

The final consideration in determining form level rating is organization. Organization applies to the procedure used by a subject to tie the various parts of the blot into a meaningful larger concept. Form level is raised or lowered in units of 0.5 depending upon quality of elaboration and organization. For instance, to Card 3, a subject may respond, "Those are two stylistic African ballerinas at a carnival; the red lights are the lights at the carnival; they have pointed shoes and protruding noses." This initial response of African dancers would receive a basal rating of 1.5 since it is a very good fit to the blot and a specific response. The subject would receive an additional .5 for movement (dancing), and additional .5 for red lights at the carnival (color), .5 for tight curly hair (shading response), and the additional elaboration of pointed shoes would be .5, the nose .5, and ballerina shoes .5. There would be added .5 for organization on the assumption that the ballerinas were dancing together (that is, cooperatively in achieving a pattern), thus giving a total score of 5.0.

## CHAPTER IV

## RESULTS AND DISCUSSION

Analysis of Data

To test Hypothesis One within sex groups, students high and low on initiative (the combined scores on the Rotter I-E and Edwards Personality Inventory) were compared on Rorschach Cards (2,3,8,9) for the dimension of form level. Analysis of variance techniques were used to make comparison between the two groups. The results are shown in Table 2.

Table 2. Comparison on Rorschach form level of subjects scoring high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories for each sex separately.  
Boys N - 18, Girls N - 18

Sex	Mean	SD	DF	F
Boys				
High	9.94	2.73	1	4.92*
Low	8.14	2.39	35	
Girls				
High	11.86	2.60	1	12.58*
Low	8.75	3.23	35	

\*Significant at .05 level

From Table 2 it may be seen that the difference on the personality variable of initiative did produce a significant difference in subjects scores on the Rorschach form level. The first hypothesis was therefore accepted.

To test Hypothesis Two with sex subgroups, students high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories were compared for performance on the Witkins Embedded Figures Test. Analysis of variance techniques were used to make comparison between the groups.

Table 3. Comparison of Witkins Embedded Figures Test of subjects high and low on initiative as measured by Rotter I-E and Edwards Personality Inventory for each sex separately. Boys N-18, Girls N - 18

Sex	Mean	SD	DF	F
Boys				
High	464.28	152.06	1	1.57
Low	557.17	272.29	35	
Girls				
High	632.39	226.01	1	3.88
Low	771.11	212.14	35	

It can be seen that the two groups did not differ significantly on their responses to the Witkins Embedded Figures Test. Hypothesis Two was therefore rejected.

To test Hypothesis Three within sex groups, high and low subjects on initiative personality variable as measured by Rotter I-E and

Edwards Personality Inventory were compared on the combined scores of the selected WAIS performance subtest scores: block design, picture arrangement, object assembly--minus selected and combined WAIS verbal subtest scores of information, similarities, and vocabulary in standard score form. This comparison measures the degree of active, analytic, well-motivated approach to problem solving. Analysis of variance techniques were used to make a comparison between the groups. The results are shown in Table 4.

Table 4. Comparison of combined WAIS subscale scores of block design, picture arrangement, object assembly minus information, similarities, and vocabulary in standard score form of subjects high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories for each sex separately.  
Boys N - 18, Girls N - 18

Sex	Mean	SD	DF	F
Boys				
High	3.11	6.12	1	1.15
Low	.88	4.78	35	
Girls				
High	3.00	6.18	1	.38
Low	4.28	5.83	35	

From Table 4 it may be seen that the groups differing on initiative did not differ significantly in either sex group on performance of compared scores between block design, picture arrangement, and object assembly minus information, similarities, and vocabulary in standard score form. Hypotheses Three was therefore rejected.

To test Hypothesis Four with sex groups, students high and low on personality variable of initiative were compared on the remainder scores of digit symbol with information subtracted. An analysis of variance was used to make a comparison between the remainder of digit symbol minus information for each of the sex groups.

Table 5. Comparison of WAIS subscales of digit symbol minus information, for subjects high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories for each sex separately

Sex	Mean	SD	DF	F
Boys				
High	-2.00	2.97	1	.82
Low	2.78	2.42	35	
Girls				
High	.11	5.25	1	1.17
Low	-1.11	1.91	35	

From Table 5 it may be seen that the two groups did not differ significantly in either sex group on compared scores of digit symbol with information subtracted. Hypothesis Four was therefore rejected.

To test hypothesis Five within sex groups, students high and low on the initiative personality variable were compared on the composite percentile scores of the Iowa Test of Educational Development. Analysis of variance technique was used to make a comparison between the two groups.

Table 6. Comparison of percentile scores on the Iowa Test of Educational Development of subjects high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories for each sex separately

Sex	Mean	SD	DF	F
Boys				
High	65.06	24.00	1	1.16
Low	56.72	20.95	35	
Girls				
High	60.17	22.54	1	1.45
Low	50.11	25.70	35	

From Table 6 it may be seen that with both boys and girls, those scoring higher on personality variable of initiative did not differ significantly on their performance on the achievement test of Iowa Test of Educational Development. Hypothesis Five was therefore rejected.

A summary of the results would indicate that scoring high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventories had a significant effect in the hypothesized direction on performance on the Rorschach Ink Blot Test, when scored according to Klopfer form level. Boys high in initiative did significantly better on the Rorschach form level than boys low in initiative. Girls high in initiative also did significantly better on the Rorschach form level than girls low in initiative.

The boys scoring higher on the initiative personality variables of Rotter I-E and Edwards Personality Inventories did better on the Witkins Embedded Figures Test than those who scored low on the Rotter

I-E and Edwards Personality Inventories, but not significantly better. With girls, those girls scoring in the upper group on the initiative personality variables solved the Witkins Embedded Figures cards in less time than those girls low on initiative, but the difference in the group means were not significant at the .05 level of confidence. On the Witkins Embedded Figures Test, as in past research, boys did better than girls, boys taking less time to solve the field embedded tasks.

On the WAIS difference scores,  $([BD + PA + OA] - [I + S + V])$  and  $[Ds - I]$ , there did not appear to be any consistent direction nor was there a significant difference between the students scoring high and low on the measures of initiative.

When comparing boys who scored at the upper and lower 30 percent range on the personality variable of initiative, the high initiative boys gained higher composite achievement test scores on the Iowa Test of Educational Development than those boys who scored low on the measure of initiative. For girls, those in the upper group who had scored in the upper 23 percent of the group on the measures of initiative versus those scoring in the lower 23 percent on personality variable of initiative also gained higher composite achievement test scores on the Iowa Test of Educational Development. However, the difference in the means between high and low group was not a large enough difference to be significant at the .05 level.

### Discussion

It was the purpose of this study to determine if responses to a self-inventory measuring a personality variable of self-responsibility and initiative had a significant relationship to a subject's performance

on items sensitive to motivation, field dependency, and an analytical approach in imposing of order on an ambiguous stimulus.

In general the findings of this study show that for the subjects considered, those subjects high on the self-inventory measuring the personality variable of initiative produces responses of higher form level significant in their Rorschach Ink Blot tests.

In regards to Hypotheses Two and Five, the subjects (both boys and girls) scored in the hypothesized direction. Hypothesis Two compared subjects high and low on initiative and hypothesized that those subjects with greater initiative would solve the Witkins Embedded Figures Test in less time. Hypothesis Five hypothesized that the students reporting greater initiative would receive higher composite scores on the Iowa Test of Educational Development. The subjects' scores on the selected verbal and performance subtest responses to the Wechsler Adult Intelligence Scale showed no consistent direction or significant difference of scores between those students high and low on measures of initiative. The personality variable of initiative did not have a relationship in the hypothesized direction for the Wechsler subtests.

In regard to Hypothesis One, subjects reporting greater initiative did receive higher Klopfer form level scores on the Rorschach Ink Blot test. There was a significant difference in the hypothesized direction of scores received by high and low subjects. Interestingly, the test administrator wrote the following remarks on test protocols describing verbal response patterns of those students possessing greater initiative:

1. Eagerness to be challenged by tasks was demonstrated by acceleration of verbal fluency.



2. Willing to assert self and risk ideas that might be judged absurd or inappropriate.

One would expect these kinds of observations about persons feeling unthreatened, at ease, and secure with their problem solving efforts, who desire to do their very best in a testing situation.

Many of the protocols of students reporting less initiative had comments that were less positive in content, i.e.,

1. Lacks interest in the task.
2. Hesitant to respond to the lack of structure of the Rorschach.
3. Short responses suggest and apparent lack of desire to elaborate upon initial response.

Subjectively, students' behavior during the Rorschach individual testing supported the hypothesis that subjects reporting greater self-initiative do structure their problem solving and interpersonal associations in a more positive productive style. These subjects are able to project and organize a greater amount of past perception into a meaningful fit to the Rorschach blot.

A greater difference between the Rorschach composite mean score of the groups of girls scoring high and low on initiative versus the high and low groups of boys may have been caused in part by the fact that girls identified in the high and low group represented a more extreme percentage range of the original sample of those administered the personality tests. The girls in the upper and lower groups represented the upper and lower 23 percent of girls given the Rotter I-E and Edwards Personality Inventory. However, the upper and lower group of boys represented the upper and lower 30 percent of boys given the personality tests.

In the present study, the Witkins was the last of a battery of individual tests administered to the subjects. Since the subjects were tested during a class period, some time did extend into the next class time. There may have been increased anxiety, fatigue, or lack of motivation in performance of Witkins tasks on the part of some subjects. In retrospect, this situation may have affected students differently and had an effect on results.

Subjects representing both high and low groups for initiative received inconsistently different scores on all WAIS subtests. No significant difference in scores on any of the compared subtests appeared within experimental groups. Thus, treatment groups did not differ from each other on any of the WAIS subtests. No significant difference in scores on any of the compared subtests appeared within experimental groups. Thus, treatment groups do not differ from each other on any of the WAIS subtests compared in this study.

The Iowa Test of Educational Development was used in lieu of grade point average. In the pilot study by this researcher, grade point average was found to have had a significant relationship to the independent personality variable of initiative. However, in the present study it was not possible to use student grade point average. The student subjects in the present study did not all receive letter grades for their classes since some classes were pass-fail. Therefore, the Iowa Test of Educational Development was used in an effort to find a suitable replacement to measure academic achievement.

The personality variable of initiative does manifest itself positively in those tasks of ambiguous nature such as the Rorschach. Subjects high on initiative exhibit more of those kinds of behaviors

which are seen as positive, creative, responsible, self-directed activities. This student would seem prepared for the uncertainties in today's society which requires a citizen who possesses a creative, problem solving approach in his work and social responsibilities. This finding is related to the hypothesis that students with greater initiative will receive a higher form level score on selected Rorschach Cards.

Excluding the Rorschach, most tasks administered to the subjects in this study contained some pre-experiential conceptualization. However, the Rorschach appeared unique in stimulating a particular kind of conceptual functioning; that of fitting structure to an ambiguous stimulus. This experience was unusual and new to each subject. Therefore, it appeared that their responses to the Ink Blots were fresh, original, and the degree of constructive elaboration appeared dependent on the dimension of self-initiative.

It was not intended to extend this study to all aspects of personality. However, the specific variable of initiative, as observed in this study, certainly elicits many questions to entertain further research.

## CHAPTER V

## SUMMARY

This study attempted to investigate one aspect of initiative that is subsumed under self-concept and its relationship to performance of tasks requiring a subject to respond to perceptual material, and perform on subtests of an intellectual ability test and on an academic achievement test. In order to carry out these objectives, the following hypotheses were tested in this study:

1. Determine whether students receiving scores in the direction of more control of their environment and feeling greater self-responsibility on the Rotter I-E and the Edwards Personality Inventory will, when compared with those scoring lower on the Rotter I-E and Edwards Personality Inventory:
  - a. Receive a higher form level score on the Rorschach Cards 2,3,8,9, thereby suggesting a relationship between initiative and self-responsibility and the ability to organize and structure an ambiguous stimulus presented.
  - b. Be less field-dependent on the Witkins Embedded Figures Test and therefore receive a lower total score by being able to focus out extraneous stimulus and be less dependent upon a perceptual field when responding to the figures.
  - c. Receive a higher mean scale score on the WAIS subtest of picture arrangement, block design, and object assembly than on the verbal subtests of information, vocabulary, and similarities.

- d. Receive a higher scale score on the WAIS subscale of digit symbol than on the subscale of information.
- e. Possess a higher over-all percentile score on the achievement test of the Iowa Test of Educational Development.

This study was based on a sample of 80 girls and 60 boys who were students from the senior class at El Dorado High School in Placerville, California. All students participating had gained written permission from their parents prior to the administration of the testing.

All subjects were administered as a group selected scales from the Rotter Internalization-Externalization Scale and the Edwards Personality Inventory. The EPI scales measure motivation to succeed, plans work efficiently, assumes responsibility, is a hard worker, and competitive, respectively. Scores received on the Edwards Personality Inventory were combined with the Internalization score on the Rotter Scale. The Rotter I-E Scale is scored for internalization and higher scores then indicate students functioning more internally. The combined Rotter I-E and Edwards Personality Inventory measured the personality variable of initiative. Scores received by the subjects, in each sex group, were then divided into two major experimental groups, upper and lower respectively. Girls in upper and lower group represented the upper and lower 23 percent of girls given Rotter I-E and Edwards Personality Inventory. The upper and lower group of boys were composed of subjects in the upper and lower 30 percent of those boys given the Rotter I-E and Edwards Personality Inventory.

The students within the upper and lower groups on the personality variable called "initiative" were matched for intelligence from scores

they received on a group administration of the Lorge-Thorndike Intelligence Test. Subjects at the upper and lower ranges of initiative were given a battery of individual tests of Rorschach Cards 2,3,8,9 scored for Klopfer form level only, Witkins Embedded Figures Test short form A, and selected scales from the Wechsler Adult Intelligence Scale. Subjects were also compared on their responses to the Iowa Test of Educational Development.

The data were treated with an analysis of variance technique making comparison between performance on individual tests of those subjects scoring high and low on initiative as measured by the Rotter I-E and Edwards Personality Inventory. Significant results were obtained on the Rorschach form level, confirming Hypothesis One, that the person with greater initiative applies more constructive elaboration to the ambiguous stimulus of the Rorschach Card. Other hypotheses in this study were not supported statistically. However, results on Hypotheses Two and Five were in the proposed direction. Hypothesis Two hypothesized that those students reporting greater self-initiative would solve the Witkins Embedded Figures Test faster than those reporting less initiative. Hypothesis Five hypothesized that the student's percentile score on the Iowa Test of Educational Development would be higher for students reporting greater self-initiative on the Rotter I-E and Edwards Personality Inventory. The question remains, "Is the amount of initiative and self-responsibility one feels he assumes over his environment a significant factor in accounting for the quality of performance with life's tasks?"

### Recommendations

It is suggested that further research might explore comparisons of Klopfer form level to measures of fluency, and embellishment of response measured by creativity tests in an effort to determine the relationship of measures of creativity to the personality variable of initiative used in this study.

Certain problems in implementing this research design were encountered that should be anticipated or at least minimized in future research. The first consideration involved the peculiar problem of conducting any psychological testing in a public school system. Administration, faculty, and parents all need to agree to such research in a public school setting.

The second is simply a logistical problem of setting student time for administering psychological tests.

And last, the problem of a subject's commitment to the examiner's task (his interest and explanation as to how this time is justified). Simply: "What do I get out of it?"

Despite the inherent problem of conducting research with this particular population, further research is imperative for defining and understanding urgent educational and social problems.

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## APPENDIX

## LETTER OF PARENT PERMISSION FOR TESTING

Dear Parents:

As a part of a Doctoral Dissertation and research being conducted with the Department of Education, Utah State University, may we request your permission to administer a brief battery of tests to your child attending El Dorado High School. Arrangements will also be made for your child to receive approximately forty-five minutes of individual performance tests.

Briefly this study is theoretical in nature and hopes to explore statistical validity of a few select testing instruments which are used widely in school districts and to explore additional factors effecting motivation. All data collected will be reported as group data with no reference to any specific scores or subject.

Also participating in this particular study were all senior students of Loyalton High School, Loyalton, California, and all junior students of Logan High School, Logan, Utah. Cooperation has been obtained from the El Dorado High School Board and Administration. In order to adequately complete this research and Doctoral Dissertation, your cooperation is appreciatively sought.

Please sign the permission slip and/or if there is a question concerning this request, please feel free to call this number (622-5453).

Thank you for your cooperation.

Sincerely,

John Genasci

-----CLIP HERE - RETURN SLIP TO HOME ROOM TEACHER-----

PARENT PERMISSION SLIP

My child, \_\_\_\_\_, has permission to participate in a research project and Doctoral Dissertation from Utah State University Department of Education under the directorship of Dr. Arden Frandsen. I understand data will be reported as group scores with no reference to any specific subject or scores.

Signed \_\_\_\_\_  
(Parent of Guardian)

Date \_\_\_\_\_

## VITA

John Edmund Genasci

Candidate for the Degree of

Doctorate of School Psychology

Dissertation: Investigation of One Aspect of Initiative That is  
Subsumed Under Self-concept and its Relationship to  
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Major Field: School Psychology

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Education: Attended elementary school in Loyalton, California;  
graduated from Loyalton High School in 1957; received  
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1962, with a major in Physical Education and a minor in  
Science; coached freshman football at the University of  
Nevada in Fall, 1961; entered School of Graduate Studies  
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ments for Master of Science degree specializing in Counseling  
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continue for the Degree of Doctorate of School EdD of School  
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Professional Experience: Employed in Peace Corps training  
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and also in charge of group development training. In 1967  
Peace Corps Project employed as assistant selection officer.  
In 1968 employed during the summer as selection officer for  
Peace Corps, Iran - training site in Denver Colorado. During  
1969 school year consulted as selection officer at Peace  
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school year and assistantship in School of Education 1968-69  
school year working in selection of upper division education  
majors. Employed as psychologist for Head Start Program 1967  
Logan City Schools. Consultant to Education Handicapped  
Program, Rock Springs, Wyoming and as consultant to Education  
Program, Lander, Wyoming 1969. During 1969-70 and 1970-71



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